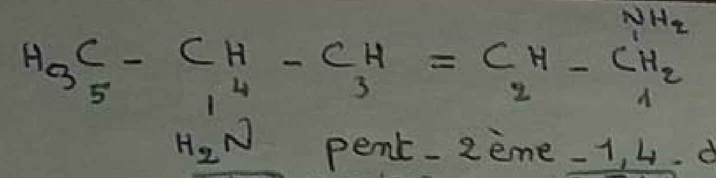
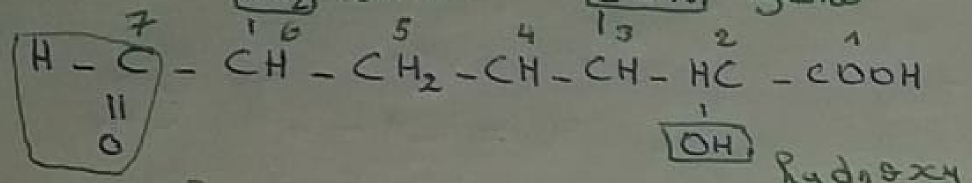
c) 

pent-2ène-1,4-diamine.

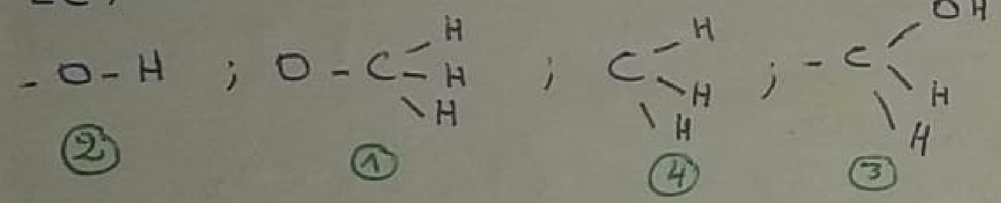
d) 

Acide -6 amine -3-cyane -4-éthyl -7-formyl- 2 hydroxy heptanoïque

Exercice 5

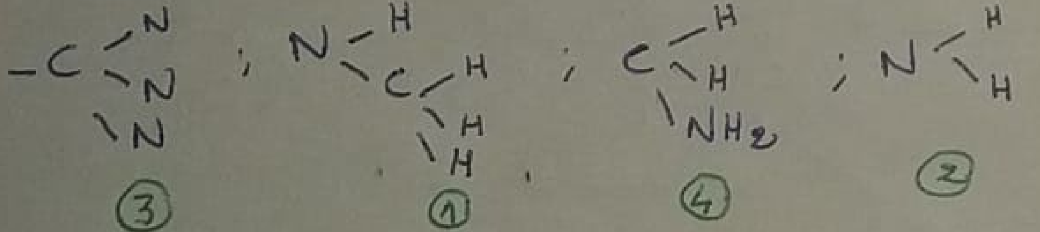
a) $OH - OCH_3 - CH_3 - CH_2OH$

z(O) = 8
z(C) = 6

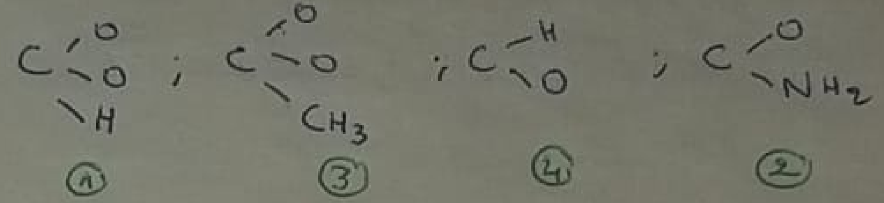


b) $CN - NHCH_3 - CH_2NH_2 - NH_2$

z(C) = 6
z(N) = 7



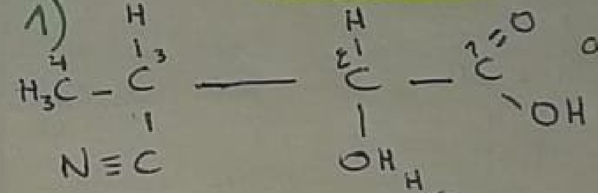
c) $-COOH - COCH_3 - CHO - CONH_2$



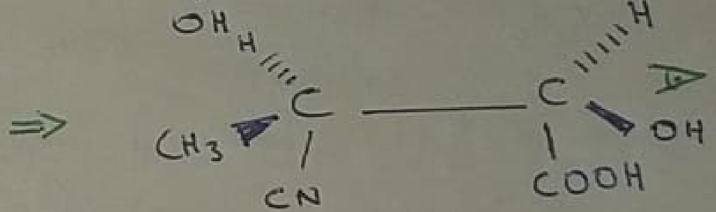
d) $NH_2 - SH - OCOCH_3 - CCl_3$

z=7 (3) ; z=16 (1) ; z=8 (2) ; z=6 (4)

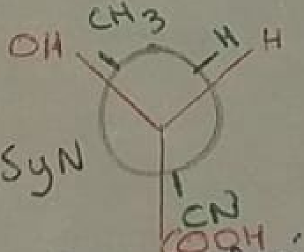
Exercice 6

1) 

acide-3-cyane-2 hydroxybutanoïque

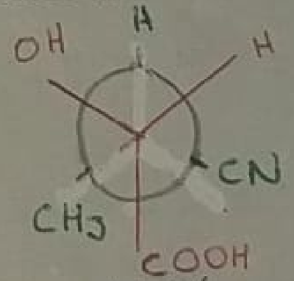


Représentation de Newman.

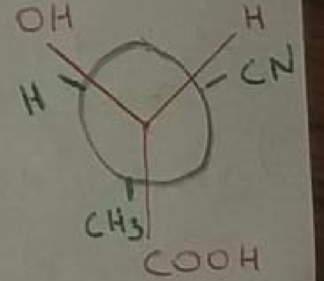


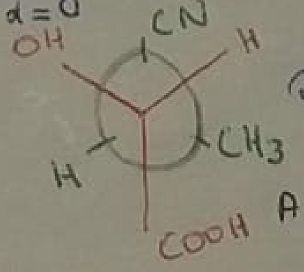
SyN

forme éclipsé
$\alpha = 0$



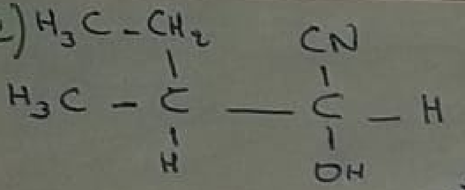
décalée
$\alpha = 60°$



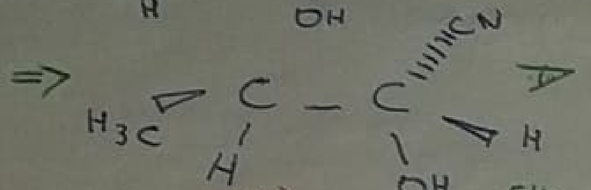


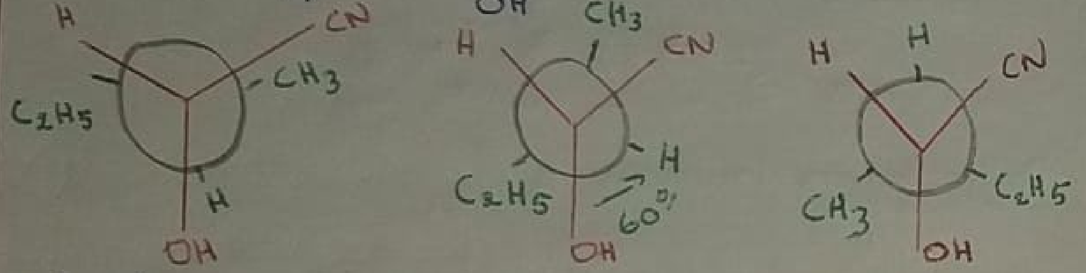
Décalée
$\alpha = 180°$
ANTI

ANTI est la plus stable car les ~~sub~~ interactions entre les ≠ substituants sont minimums.

2) 

2-Hydroxy-3-methylpentane nitrile.





eclipsé $\alpha = 0$

SYN

décalée.

$\alpha = 180°$

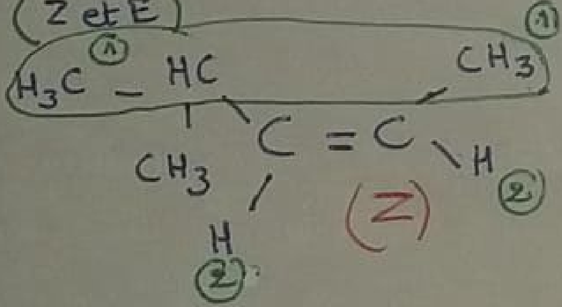
Exercice 7

a) 4-methylpent-2ène

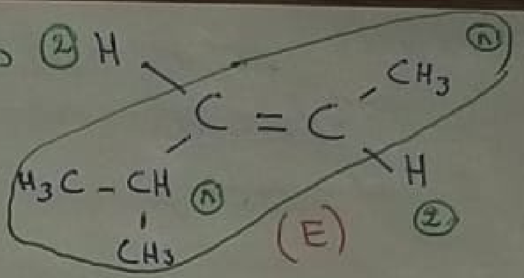
$\overset{5}{H_3C} - \underset{CH_3}{\overset{4}{CH}} - \overset{3}{CH} = \overset{2}{CH} - \overset{1}{CH_3}$

on a une seule double liaison donc il y a 2 cas possible (Z et E)

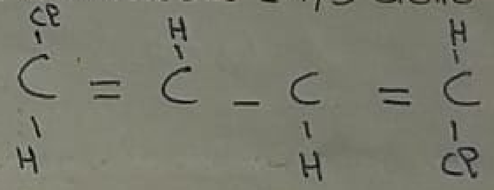
1er cas:

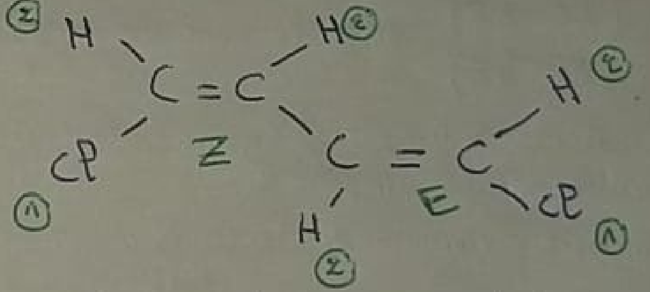


2ème cas



b) 1,4-dichlorobut-1,3 diène

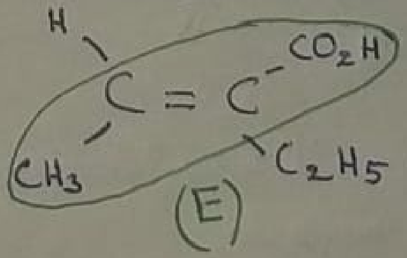


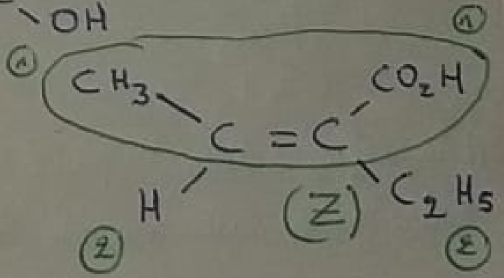


(2E 3S); (2Z, 3E) (2Z, 3Z) (2E, 3Z)

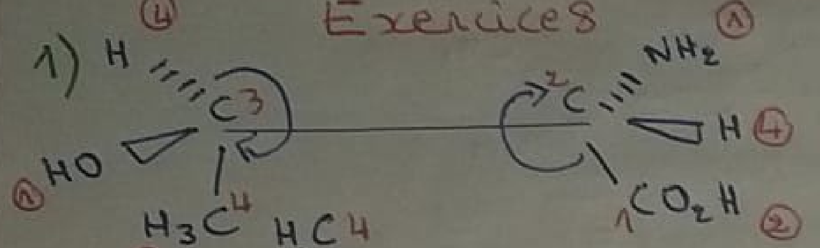
c) Acide 2-ethylbut-2-énoïque

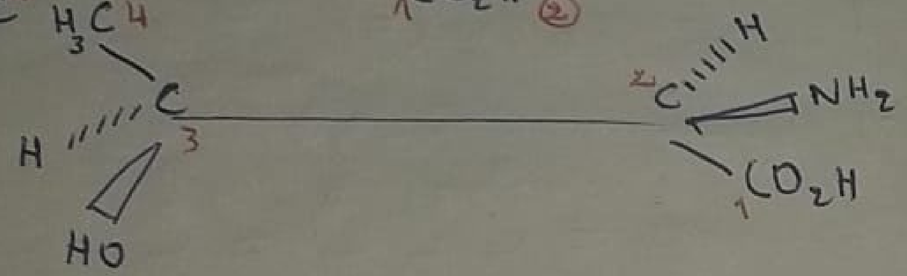
$\overset{4}{CH_3} - \overset{3}{CH} - \overset{2}{C} - \overset{1}{C}(=O) - OH$





Exercice 8

1) 

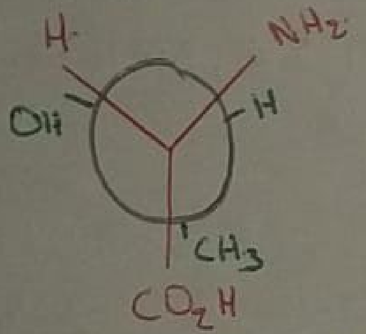
2) 

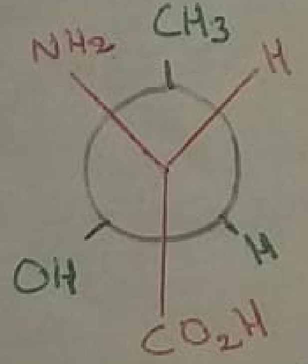
1) C_2 et C_3 sont deux carbones asymétriques

2) Composé 1 : (2S 3R)
Composé 2 : (2R, 3S) donc ils sont des énantiomères

⇒ (2S,3R) : Acide 2-Amino-3-hydroxybutanoïque est un énantiomère du composé 2.

3) La projection de Newman de 2 stéréoisomères





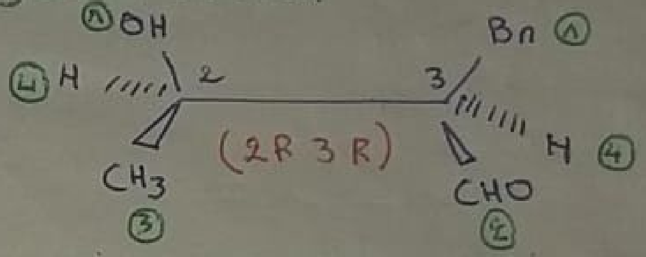
4) La configuration la plus stable est 2 car les interactions entre les ≠ substituants sont minimums.

Exercice 9

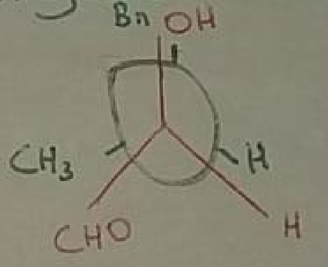
$\underset{4}{CH_3} - \underset{3}{CH}(OH) - \underset{2}{CH}(Bn) - \underset{1}{CHO}$

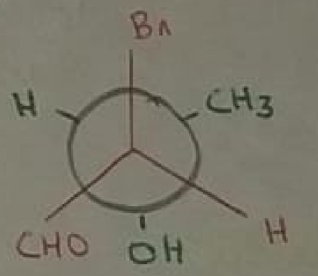
2-bromo-3-hydroxybutanal.

Projection de Cram



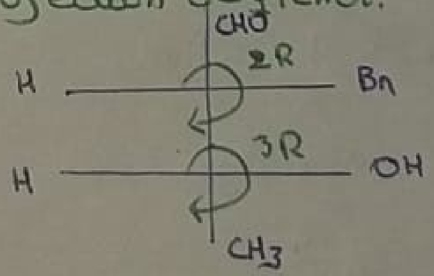
Projection de Newman





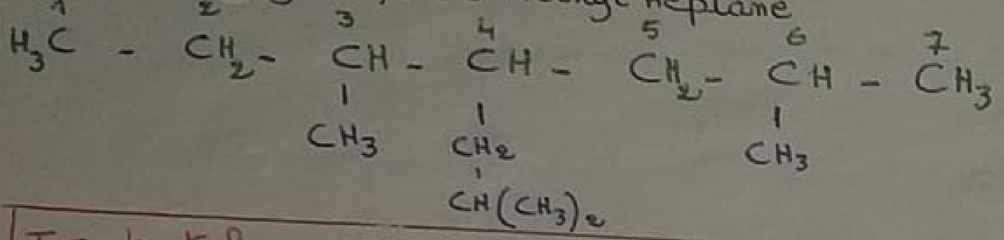
180°

Projection de Fischer.

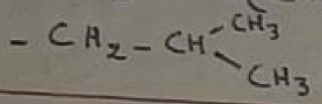


Exercice 1

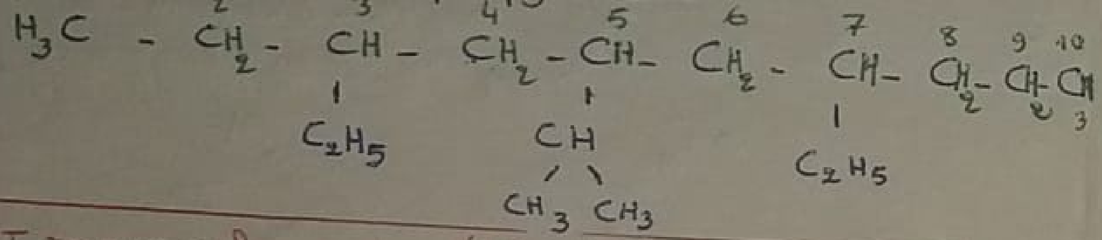
a) 4-isobutyl-3,6-diméthyl heptane



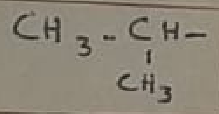
Isobutyl : $-CH_2-CH(CH_3)_2$



b) 3,7-diéthyl-5-isopropyl décane



Isopropyle ou 1-méthyléthyle :

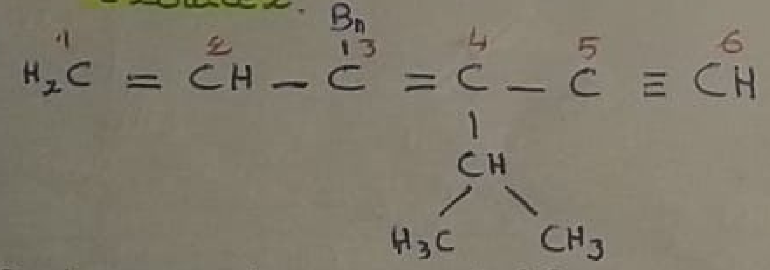


c) oct-1,3,5-trien-7 yne

$\overset{1}{C}H_2 - \overset{2}{C}H - \overset{3}{C}H = \overset{4}{C}H - \overset{5}{C}H = \overset{6}{C}H - \overset{7}{C} \equiv \overset{8}{C}H$

Exercice 2.

1)

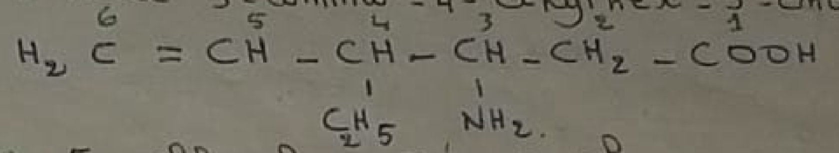


3-bromo-4 isopropylhex-1,3-dièn-5-yne

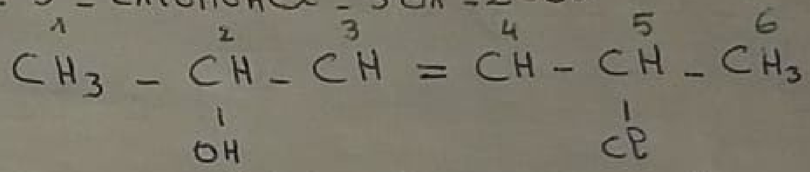
Remarque : on commence la numerotion par la double liaison car elle est plus réactif qu'une triple liaison.

Exercice 3.

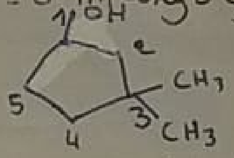
1) Acide 3-amino-4-éthylhex-5-énoïque.



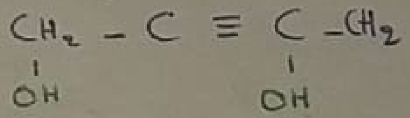
2- 5-chlorohex-3én-2-ol



3- 3,3-diméthyl cyclopentan-1-ol

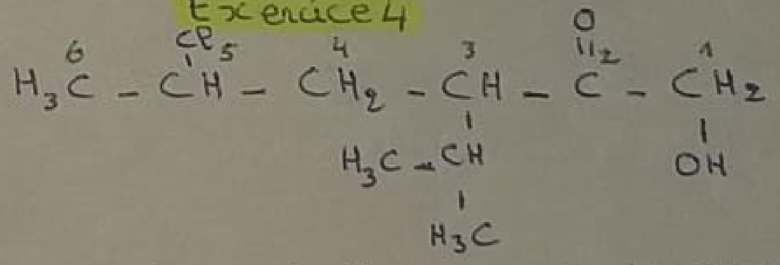


4- but-2-yn-1,4 diol



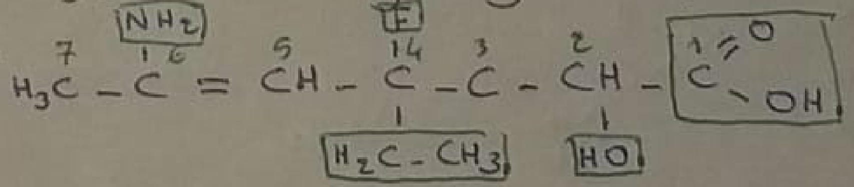
Exercice 4

1)



5-Chloro-1-hydroxy-3-isopropylhex-2-one

2-



Acide 6-amino-4-ethyl-4-fluoro-2-hydroxy-3 oxohept-5-enoïque.